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Our reference: 2413-141279RU/005
Application No.: 2007103357
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TRANSLATION

DECISION ON GRANT

PATENT FOR INVENTION

Mailed December 19, 2008

(21) Application №2007103357/11(003608). (22) Date of filing the application 16.08.2004

In the course of substantive examination of the present application it has been established that:

[ ] claimed invention

[x] claimed group of the inventions

has revealed their concordance to the requirements of patentability set forth by the Civil Code of the Russian Federation and decided to grant the Patent of the Russian Federation for the invention claimed.

Encls. 8pp.

CONCLUSION ON THE RESULTS OF THE EXAMINATION

(21) Application № 2007103357/11(003608). (22) Date of filing the application 16 August 2004
(24) Date from which industrial property rights may have effect 16 August 2004
(85) Date of commencement of the national phase 30 January 2007

PRIORITY IS FIXED ON DATE

☐ (22) Date of filing the application
☐ (23) Date of filing of additional materials of to the earlier application №
☐ (62) ☐ priority date of the application № of from which the present application has been divided up
☐ filing date of the application № of from which the present application has been divided up
☐ (66) Filing date of the earlier application №
☐ (30) Data relating to priority under the Paris Convention

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(51) IPC
(54) Title COMPOSITE ANCHOR BOLT AND CONSTRUCTION METHOD FOR THE ANCHOR BOLT

As the result of substantive examination of the patent application conducted in respect to

☐ originally filed claims ☒ claims amended by the applicant

it has been revealed their concordance to the requirements of patentability set forth by Articles 1349 and 1350 of the Civic Code of the Russian Federation and decided to grant the Patent of the Russian Federation for the following claims:

(21) 2007103357/11

(51) IPC

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(57)

1. A post-construction composite anchor bolt which is set to its place after a reinforced concrete frame is matured, said bolt comprising:

a first anchor bolt installed projecting outside of the reinforced concrete frame;

and a second anchor bolt which is eccentrically positioned to the axis of said first anchor bolt; and

a connecting part for connecting said first and the second anchor bolts,

wherein said connecting part is provided with a projecting portion which projects in the opposite direction to the first anchor bolt, thereby reducing the bending moment which is exerted locally on the connecting part due to a load on said first anchor bolt.

2. The composite anchor bolt according to claim 1, wherein the profile of said connecting part has a polygonal or circular shape, thereby increasing the compressive force transfer area of said projecting portion.

3. The composite anchor bolt according to claim 1, wherein said connecting part is formed to have top and bottom surfaces of a polygonal or circular shape, and said second anchor bolt is positioned at the center of the connecting part.

4. The composite anchor bolt according to claim 1, wherein said connecting part has an injection hole for the adhesive and an air hole.

5. The composite anchor bolt according to claim 1, wherein said first anchor bolt and said second anchor bolt are formed with the same or different diameters.

6. The composite anchor bolt according to claim 1, wherein said second anchor bolt has a larger diameter than said first anchor bolt, and formed with a shorter length embedded in the concrete.

7. A post-construction composite anchor bolt which is set to its place after a reinforced concrete frame is matured, said bolt comprising:

a first anchor bolt installed projecting outside of the reinforced concrete frame;

a second anchor bolt which is eccentrically positioned to the axis of said first anchor bolt; and

a connecting part for connecting said first and the second anchor bolts,

wherein the center of said connecting part and the axis of the first anchor bolt are coaxial, the profile of said connecting part has a polygonal or circular shape, and said second anchor bolt is positioned in a circumference with the center on the axis of said connecting part and the first anchor bolt.

8. The composite anchor bolt according to claim 7, wherein the profile of said connecting part has either a circular, triangular, quadrangular, or polygonal surface to increase the adhesive area of the composite anchor bolt with the concrete.

9. The composite anchor bolt according to claim 7, wherein a reinforcing portion is formed at a jointing point between said second anchor bolt and said connecting part to compensate for a bending moment which is exerted locally on the joining point.

10. The composite anchor bolt according to claim 7, wherein said first anchor bolt and said second anchor bolt are formed with the same or different diameters.

11. The composite anchor bolt according to claim 7, wherein said second anchor bolt has a larger diameter than said first anchor bolt, and formed with a shorter length embedded in the concrete.

12. The composite anchor bolt according to claim 7, wherein said connecting part has an injection hole for the adhesive and an air hole.

13. The composite anchor bolt according to claim 7, wherein at least one of said first anchor bolt and second anchor bolt is removably attachable to said connecting part.

14. A post-construction composite anchor bolt which is set to its place after a reinforced concrete frame is matured, said bolt comprising:

a first anchor bolt installed projecting outside of the reinforced concrete frame;

a second anchor bolt which is eccentrically positioned to the axis of said first anchor bolt; and

a connecting part for connecting said first and the second anchor bolts,

wherein said connecting part and second anchor bolt are formed together in a T-shaped configuration, and said first anchor bolt is place at the end side of the connecting part.

15. The composite anchor bolt according to claim 14, wherein at least one of said first anchor bolt and second anchor bolt is removably attachable to said connecting part.

16. A method of installing a post-construction composite anchor bolt which is set to its place after a reinforced concrete frame is matured, said method comprising:

preparing a composite anchor bolt which comprises a first anchor bolt projecting on the outside and a second anchor bolt positioned eccentrically to the first anchor bolt and a connecting part connecting the first and second anchor bolts;

removing a cylindrical or polyhedral core from the reinforcement covering margin to confirm the position of the reinforcement when reinforcement is encountered in the anchor borehole position, said core corresponding to the shape of said connecting part, and surrounding the borehole;

drilling a borehole for said second anchor bolt; and

jointly attaching said composite anchor bolt.

17. The method of installing a composite anchor bolt according to claim 16, wherein after the second anchor bolt is set into the drilled borehole, the adhesive is injected into an adhesive injection hole which is formed in said connecting part, air is released from an air hole which is formed in said connecting part, and said composite anchor bolt is attached.

18. The method of installing a composite anchor bolt according to claim 16, wherein a portion of said connecting part is projected outside from the concrete frame and an equipment base is placed on said connecting part and attached with said first anchor bolt".

(56) JP 61-002550 U, 09.01.1986;
JP 08-312884 A, 26.11.1996;
JP 59-188892 U, 14.12.1984;
JP 2003-096918 A, 03.04.2003.

For publishing the patent, the amended specification (submitted on 05.12.2008) and the originally filed drawings will be used.